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XXVI. *An Account of the Case of the late Right Honourable Horace Lord Walpole ; being a Sequel to his own Account published in the Philosophical Transactions, Vol. xlvii. p. 43. and 472.*

I.

Copy of a Letter from John Pringle, M. D. F. R. S. to Dr. Robert Whytt, Professor of Medicine in the University of Edinburgh, and F. R. S. relating to the Case of the Right Honourable Lord Walpole ; with Dr. Whytt's Answer. Communicated by Dr. Pringle.

S I R,

London, 22 Feb. 1757.

Read April 21,
1757.

I Imagined, that upon hearing of Lord Walpole's death, you would be desirous to know the state of his Lordship's health from the time he published his own case ; whether he continued the use of his medicines to the last ; what distemper he died of ; and, if his body was opened, what was the condition of his bladder and kidneys. I informed myself, as well as I could, of all these particulars ; and I hope I shall be able to give you some satisfactory account of most of them.

Last year, in the month of March, about ten months before his Lordship's death, I happened to meet him at a friend's house, where he dined, and never saw any man of his age with a more healthful appearance. He was then in his 78th year. He eat
with

with an appetite, and of a variety of dishes ; drank some Madeira, and was very chearful the whole time. His Lordship then told me, that he had enjoyed perfect health since he sent his case to the Royal Society ; that he thought it probable there was still a stone in his bladder, but so diminished, or smoothed, as to give him no uneasiness ; that he did not think it safe to go about the streets of London in a coach, but that he went every where in a chair ; and that, in the country, he could travel 40 miles a day in his post-chaise, without fatigue, or feeling any of his old pains upon the motion. That he continued to drink, for a constancy, three pints of oyster-shell lime-water daily ; and to take, as often, from half an ounce to a whole ounce of soap, by way of lenitive. All these circumstances I am sure of, because I noted them down when I came home.

From this time to the beginning of winter, Lord Walpole (as Mr. Graham, his apothecary, informed me) continued in the same state of health ; but some time after coming to town, his Lordship was seized with a lingering feverish disorder, very much affecting his spirits, but intirely unconnected with the stone. Dr. Shaw, who attended his Lordship for about a fortnight before his death, told me, that there had never been any stoppage of water, or passing of bloody urine, or any pain about his bladder or kidneys, during his last illness ; but that he now and then felt some irritation in making water, a symptom too inconsiderable to require any other medicine than the continuation of his lime-water ; which, in a smaller quantity, he drank till within two or three days of his end.

Mr.

Mr. Ranby and Mr. Hawkins, surgeons, with Mr. Graham, were present at the opening of the body; and from the two last I received the account of the dissection.

The coats of the bladder appeared to be a little thicker than natural, but were otherwise found. The *glandula prostata* was of a large size, but not distempered. They found three *calculi*, two lying loose in the bladder, and the other, a very small one, sticking in the passage, at that part, which is surrounded by the prostate gland. Mr. Graham favoured me with a sight of them all. The two first were very much alike, being of the shape and size of the kernel of a Spanish nut; only the sides were irregularly flattened, but without forming any sharp angle. The surface of each was every where smooth, except where there had been a separation of some small scales, not so thick as one's nail; and the largest exfoliation from one of these stones appeared to have been nearly about the breadth of the nail of my little finger. The polish otherwise, as well as the colour of both, might be compared to a boy's marble. One of these *calculi* weighed 21 grains, the other 22 grains: they were heavy for their bulk, and seemingly of a hard substance. The smallest stone having been put up with some others of the same size, taken out of the gall-bladder, Mr. Graham could not be positive which of them it was; and therefore I can only say, that what he thought most likely to be so, was about the size and shape of the seed of an apple, with the point broken off and the edge ragged. This, as I observed, was found in the passage, seemed to be coming away, and probably had occasioned that irritation

tation the patient had now and then felt during his last illness. It weighed only about a grain.

No parts could have a sounder appearance than both the ureters and kidneys. The first were not dilated ; nor did the last contain any stone, mucus, or gravel : the pelvis in each was of a natural size.

The rest of the abdominal *viscera* were in the same healthful state, except the gall-bladder, which was full of stones. The largest was about the size of a small chestnut, but rounder. The surface was smooth, particularly at one part, where it seemed to have rubbed upon a lesser *calculus*, of the shape of one of the *vertebræ* of a small animal, without the processes. This last had a hollow on each side corresponding to the convexity of the large stone ; and these cavities being finely polished, it seemed as if sometimes one side, sometimes the other, of the small stone had been turned to the great one, and had been shaped in that manner by the attrition. The largest *calculus* weighed one drachm two scruples and two grains ; the small one but nine grains : they both sunk in water ; and felt specifically heavier than any stones I have ever seen taken out of the gall-bladder. Besides these two, there were several very small *calculi* of irregular shapes, and of rough surfaces, which all together did not weigh above five grains. Mr. Graham, who had attended his Lordship for about 40 years, assured me, that he never had any symptom that indicated a stoppage of the bile, or the passage of a stone from the gall-bladder into the intestines.

Neither the head nor breast were opened.

These are all the materials, I can furnish you with, relating to this case. If you desire to be more particularly

cularly informed of any of these circumstances, let me know, and I will endeavour to procure you all the lights I can. In the mean while, I should be glad to have your remarks upon what I have now sent you ; and since you have been so long in the train of thinking, with more than usual attention, on this subject, I presume it would be very agreeable to the gentlemen of the Royal Society to have a paper from you on this occasion ; and the rather, as his Lordship began his course of soap and lime-water, upon hearing of your success by that method of cure. I am,

S I R, &c.

John Pringle.

II.

Some Observations on the Case of the late Right Honourable Lord Walpole, of Woolterton: In a Letter to Dr. John Pringle, F.R.S. By Robert Whytt, M.D. F.R.S.

S I R,

Edinburgh, March 16. 1757.

Read April 21, 1757. **P**HYSICIANS have not, perhaps, differed more widely in any thing, than in their opinions of the medicines lately proposed for the cure of the stone. While some imagined, that Mrs. Stephens's medicines, or soap and lime-water, were in most cases to accomplish a dissolution of the stone ; others have been positive, that nothing of this kind was to be expected from them : nay, they have condemned these medicines, when used in large quantities, and long persisted in, as hurtful to the

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stomach, guts, and urinary passages ; and have ascribed the remarkable ease, which they almost always give to calculous patients, to their depositing a calcarious powder upon the surface of the stone, by which it is rendered less hurtful to the bladder. And this opinion seems to have been not a little strengthened, by the great quantity of white sediment observed in the urine of those patients, who have used soap and lime-water in considerable quantities. Now, as I am of opinion, that most of these objections and doubts, concerning the effects of soap and lime-water in the cure of the stone, may be cleared by a candid consideration of Lord Walpole's case, I shall trouble you with a few remarks, which have occurred to me, in comparing it with the appearances found in his Lordship's body after death, of which you were so obliging as to send me a particular account.

1. Whatever doubts may have been entertained concerning the cause of Lord Walpole's complaints, yet it now appears evidently beyond dispute, that they must have been owing, not to a scorbutic corrosive humour in his bladder, as was imagined by some (1), but to stones lodged in it. These stones may possibly have lain there since 1734 ; for from that time to spring 1747, his Lordship was free of any gravelish complaints, only passing some red sand at times. But at what time soever they may have first arrived in the bladder, in 1747 and 1748 they

(1) Philosoph. Transact. Vol. xlvii. p. 48. and Essay on the Virtues of Lime-water, &c. edit. 2d. p. 197.

seem to have acquired such a bulk, or were become so rough or pointed in their surface, as to occasion great pain, frequent provocations to urine, and sometimes bloody urine; especially after any considerable motion. These complaints, however, were soon relieved, by swallowing daily an ounce of Alicant soap, and three English pints of lime-water made with calcined oyster-shells: and from 1748 to 1757 his Lordship was kept almost intirely free from any return of them, except for some months of 1750 and 1751, during which he took only one-third part of the quantity of soap and lime-water above-mentioned (2).

2. It is highly probable, nay, I think, altogether certain, that the soap and lime-water not only relieved Lord Walpole of the painful symptoms occasioned by the stones in his bladder, but also prevented their increase.

If these stones came into the bladder in 1734, they must, in so many years as his Lordship lived after this, have acquired a very great bulk: nay, if we suppose them not to have been lodged in the bladder above a year before they began to occasion frequent inclination to make urine, with pain, and sometimes sudden stoppages of urine; yet, from 1746 to 1757, they ought to have grown to a much larger size than that of the kernel of a Spanish nut (3). 'Tis

(2) Philosoph. Transact. Vol. xlvii. p. 48 and 473. and Essay on Lime-water, p. 157 and 200.

(3) The two stones found in Lord Walpole's bladder were of this size, and weighed one of them 22 and the other 21 grains.

true, the stone may increase faster in some patients, and slower in others; but stones, after remaining a dozen or more years in the bladder, generally weigh several ounces. Some years since I saw a stone, weighing near six ounces, taken from a boy of no more than 14 years of age.

3. Lord Walpole's case not only shews the power of soap and lime-water to relieve the painful symptoms, and prevent the increase, of the stone in the bladder, but also makes it probable, that these medicines do communicate to the urine a power of dissolving the stone.

In the beginning of 1749 his Lordship voided with his urine a calculous substance of a flat shape, about the bigness of a silver penny, and covered with a soft white *mucus* (4); and upon the surfaces of the stones found in his bladder there were some inequalities, which seemed to have been made by the separation of thin *lamellæ* or scales. Further, the small stone found in the beginning of the *urethra* must have been in a dissolving state, and considerably lessened in the bulk: for, if it had lain long in the bladder, and never been larger, it ought to have been voided thro' the *urethra* with the urine; and it could not have arrived lately in the bladder, since Lord Walpole had not had, for several years before his death, any nephritic pains, or symptoms of stones passing from the kidneys; and since it is not likely, that a stone of the size and shape of the seed of an

(4) Philosoph. Transact. Vol. xlvii. p. 47.

apple (5) would pass thro' the ureters without being felt. Now if this small stone, found in the *urethra*, was partly dissolved by the virtue of the soap and lime-water; it will appear at least probable, that the two larger stones in the bladder were so likewise. But altho' Lord Walpole's calculous concretions had remained undiminished, and without any symptoms of dissolution; it would not therefore follow, that soap and lime-water cannot dissolve the stone in other patients, where the concretion may be of a less firm texture.

The Rev^d. Dr. Richard Newcome, now Lord Bishop of Llandaff, while drinking two English quarts of lime-water daily, for the cure of the stone in his bladder, poured his urine every morning and evening upon a piece of human *calculus* weighing 31 grains; by which, in the space of four months, it was reduced to three pieces, weighing in all only six grains. Upon one of these pieces, weighing 2.31 grains, he caused to be daily poured, for two months, the fresh urine of a person, who drank no lime-water; at the end of which time the piece of *calculus* was found to weigh 2.56 grains, having increased in weight a quarter of a grain. This same piece being afterwards steeped in the bishop's urine (who continued to drink lime-water as above), from June 24th to July 9th, was in these few days quite crumbled into powder. Since this experiment shews, beyond dispute, that lime-water, unassisted by soap, can communicate to the urine a power of dissolving the stone out of the

(5) The stone found in the beginning of the passage from the bladder was of this size, and weighed about a grain.

body, it can scarcely be doubted, that it must have the like effect on it when lodged in the bladder. And that the dissolution of the stone in the bladder has been completed by soap alone, appeared evidently in the case of the Rev. Mr. Matthew Simson, Minister of Pancaitland near Edinburgh; an account of which will soon be made public (6) by Dr. Austin, who opened his body after death. Mr. Simson had, from 1730, been afflicted in a less or greater degree with the symptoms of a stone in the bladder; and in November 1735 was sounded by Dr. Drummond of Perth, and Mr. Balderston, surgeon in this city, by whom a stone was not only plainly felt, but also by the patient himself. In February 1737 he began to take soap; and after 1743 never had any gravelish symptoms. He died in May 1756; and, when his bladder was looked into, there was neither stone nor gravel found in it.

4. It appears from Lord Walpole's case, that soap and lime-water, even when taken in large quantities, proceed very slowly in dissolving the stone.

From July 1748, to the beginning of 1757, his Lordship drank three English pints of lime-water, and swallow'd for the most part an ounce of soap, daily; except from April 1750 to June 1751, during which time he took only one pint of lime-water, and one-third part of an ounce of soap, daily. However speedily soap and lime-water may dissolve the greatest part of urinary stones out of the body, yet

(6) It is printed in this volume of the Philosoph. Transactions, under the 28th of April, p. 221, & seqq.

being mixed with the aliment and humours of the stomach and guts, and afterwards with the whole mass of blood, it is impossible but their force must be greatly impaired before they arrive with the urine at the bladder. When, therefore, urinary stones are of an uncommon hard texture, we are perhaps scarcely to expect any sensible dissolution of them by the use of soap and lime-water : but when they are of a softer kind, there is no reason to doubt, that these medicines will in time dissolve them ; and this will happen sooner or later, in proportion to the hardness of the stone, to the quantity of the medicines swallowed by the patient, and the exact regimen he observes, as to diet (7).

But however slowly soap and lime-water may proceed in dissolving the stone, yet they generally give speedy relief to the patient. Lord Walpole did not take these medicines in the full quantity till the end of July 1748 ; and, in a few months after, he was not only greatly relieved of all his complaints, but in December was able to ride an hundred miles in his coach, without finding any uneasiness, altho' the two last days of the journey the horses went at a full trot (8). In winter 1750, and spring 1751, when his Lordship swallowed only one third part of the soap and lime-water, which he had been in use to take, his pains and frequent inclination to make urine returned in a good degree (9) ; but, after taking the medicines in the full quantity, he soon became as easy as before (10).

(7) Essay on the Virtues of Lime-water, 2d edit. p. 140.

(8) Phil. Transact. Vol. xlvii. p. 46.

(9) Phil. Transact. Vol. xlvii. p. 472, 473.

(10) Essay on Lime-water, &c. p. 200, 201.

It would seem, while Lord Walpole used only one pint of lime-water and one third of an ounce of soap daily, that the petrifying quality of his urine was not intirely destroyed, and that the stony particles newly formed on the surface of the *calculi* occasioned, by their roughness, the return of his painful symptoms. However, when he had recourse to the medicines in a larger quantity, the petrescent quality of his urine was not only destroyed, but this fluid seems to have acquired a power of dissolving the rough stony particles deposited on the surface of the *calculi*; and in this way soon removed the pain, bloody urine, and frequent desire to make water, upon using any considerable exercise.

Soap and lime-water not only relieve the painful symptoms occasioned by the stone, by wearing off its sharp points, and rougher parts, which used to irritate the tender membrane, which lines the bladder; but, when this membrane has been wounded or lacerated by the stone, there is nothing, that will heal it more speedily than lime-water; which the ingenious Dr. Langrish has found to be remarkable also for its effects in curing the bladders of dogs, after being fretted with soap-lees (11).

The power of soap and lime-water to alleviate the painful symptoms attending the stone is so great, that, as far as I remember, I have only met with one patient, who did not find himself considerably relieved by them. But it is to be observed, that this patient neither took them in full quantity, nor persisted in their use for a long enough time: and, when he was afterwards cut, the stone taken out of his

bladder was almost as thick set with sharp prickles, as the back of an hedgehog: so that, in this case, no remarkable ease could be procured to the patient by the medicines, until they had quite dissolved these sharp points, and rendered the surface of the stone smooth and equal; which was not to be done but after a very long time, especially as the stone was of a pretty hard texture.

It may be proper to take notice, that when, along with the stone, there is any ulceration in the bladder, soap does mischief, and lime-water often fails of giving any considerable relief. However, even in this case it is perhaps one of the best remedies we know.

5. Soap and lime-water, taken in large quantities, and persisted in for many years together, appear to be innocent, and no way injurious to health.

Lord Walpole, who used these medicines for upwards of eight years, was not only relieved of the painful symptoms of the stone, but had his health improved by them in other respects (12). His appetite, healthful look, and a degree of spirits uncommon at his age, continued till the end of 1756, when his last illness began first to attack him. And as his health did not appear to be any way injured by these medicines; so, when his body was opened after death, his kidneys and ureters were observed to be quite sound and natural, as was likewise his bladder; only its coats appeared a little thicker than usual, owing probably to the long-continued friction of the stones upon it. Neither the kidneys, ureters, nor

(12) Essay on Lime-water, &c. 2d edit. p. 171, 201.

bladder, were loaded or crusted with any calcarious matter ; an effect most unjustly ascribed to soap and lime-water, since in the urinary passages, to which the air has no access, they cannot deposite their calcarious part (13) ; and since the white stuff observable in the urine of such patients, as take these medicines in large quantities, is only the usual sediment of the urine changed in its nature and colour, with, perhaps, some of the dissolved particles of the stone (14).

As the urinary passages were no-way injured, so neither were the stomach, guts, and other *viscera* of the lower belly. These had all a healthful appearance, except the gall-bladder, which was almost full of biliary concretions : nor is it surprising, that soap and lime-water, which prevent the growth of urinary *calculi*, should have no effect on biliary stones, since, altho' these medicines dissolve the former out of the body, yet they do not make the smallest impression on the latter.

I presume it will be needless to take notice, that the lingering nervous fever, of which Lord Walpole died, cannot, with any colour of reason, be ascribed to the large use of soap and lime-water ; since, if they could have produced such an effect, they must have done it in much less time than eight years and an half

It may not be amiss to observe, that altho' soap and lime-water, taken in large quantities, are no-way injurious to health, yet in some cases they may

(13) Essay on Lime-water, &c. 2d edit. p. 170.

(14) Ibid. p. 24, 25, 30 & 31.

become improper, on account of the particular state of the patient. Thus, in a scorbutic or putrid disposition of the humours, soap at least ought to be totally omitted; and such patients, who are much troubled with the hæmorrhoids, ought to be sparing in its use, as the alkaline salt, with which it abounds, will scarcely fail to exasperate their pain. Where the patient is naturally very costive, less lime-water and more soap ought to be used; and, on the contrary, where the body is too loose, little or no soap is to be taken, but the cure is to be trusted to lime-water alone; which, in this case, ought to be drank to the quantity of two English quarts a day.

As the foregoing observations will, I am afraid, appear more tedious than important, I shall only add, that I am, with great esteem,

S I R,

Your most obedient humble Servant,

Robert Whytt.

III.

Dr. Pringle's Paper read after Dr. Whytt's Letter.

Read April 21, 1757. **D**R. Pringle begs leave to inform the Society, that having read the copy of his letter, within these few days, to Dr. Shaw, Mr. Hawkins, and Mr. Graham, those gentlemen found his account agreeable to their several observations; only Mr. Graham took notice, that, of late years, Lord Walpole, in his journies to Norfolk, had

F f 2

twice

twice voided some blood with his urine, but with little uneasiness; and that at other times he had passed some sand and stony particles (tho' never larger than the head of a small pin), attended with frettings of the parts, scarce painful. But Mr. Graham was not sure, whether these accidents were prior or subsequent to the sequel of the case, communicated to the Society by his Lordship.

Dr. Pringle thinks it may be likewise proper to acquaint the Society with another circumstance in Lord Walpole's case, which he had both from Dr. Shaw and Mr. Graham, *viz.* that after using the soap and lime-water for some time, his Lordship was freed from a very obstinate dry and scurfy eruption, which had resisted several other medicines. But as there were no marks of a putrid scurvy (that species expressly alluded to towards the end of Dr. Whytt's letter) the Society will easily understand, how the lithontriptic medicines may be prejudicial to one troubled with the true putrid scurvy (such as is most incident to sailors) and yet not be improper for those, that are subject to the scurfy eruptions, which are commonly, tho' erroneously, called scorbutic.

Pall-Mall, 20 April,
1757.

moved, I believe I may now with freedom offer this very curious case to the attention of the Society.

I am,

S I R,

Your most obedient humble Servant,

John Pringle.

*Postscript to Dr. Whytt's Observations on Lord Walpole's Case *.*

Read Dec. 8, 1757. “ I Do not know, if it be worth while to observe, that lately, in making some experiments with different *calculi*, there was one almost as white as chalk, but of a less hard substance than the others; and which was not in the least degree dissolved or softened by being infused 20 days in oystershell lime-water, but yielded somewhat to a solution of Spanish soap in common water.

“ From this experiment one may conclude, that it is better to prescribe both soap and lime-water

“ died of the palsy seven years ago, after having been subject to that distemper for several years: That the cure was performed in his father's house at Coldinghame, on the 4th, 5th, 6th, and 11th of days of April 1757. a circumstance he had noted down: That as to the date of his paper, presented to the Royal Society, he only recollects it was written some day in the beginning of November last; but as the woman still continued well, he hoped the precise day of the month was no material omission.” This letter to Dr. Whytt is dated, Coldinghame, January 9th, 1758.

* See above, p. 209, & seqq.

“ for the stone, than any one of them alone ; and
 “ that if one of these remedies has failed of giving
 “ relief, the other ought to be tried : for as the
 “ above white *calculus*, which yielded a little to the
 “ solution of soap, resisted lime-water ; so there may
 “ perhaps be others, that are readily dissolved by
 “ lime-water, but little affected by soap.

“ Dr. Springsfeld’s experiments with lime-water
 “ are somehow not just ; for in several *calculi* I
 “ have found the dissolving power of oyster-shell
 “ lime-water above eight times greater than he
 “ makes it.”

*Some Observations on the lithontriptic Virtue
 of the Carlsbad Waters, Lime-water, and
 Soap: In a Letter to Dr. John Pringle,
 F. R. S. from Dr. Robert Whytt, F. R. S.
 and Professor of Medicine in the University
 of Edinburgh.*

S I R,

Read Dec. 15. 1757. FROM the experiments related in Dr.
 Springsfeld’s *Commentatio de præro-
 gativa thermarum Carolinarum, &c.* which you were
 so good as to send me some time ago, it appears,
 that these waters are not only possessed of a very ex-
 traordinary power of dissolving the stone, but that
 in this respect they greatly exceed lime-water.

(A) Thus, Dr. Springsfeld having infused, for 14
 Days, in a heat of 96 degrees of Fahrenheit’s scale,
 three pieces of the same *calculus*, each weighing 30
 5 grains,